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Central Valley Pesticide Basin Plan Amendment
Fact Sheet
October 2006

1 Introduction

This fact sheet outlines an effort to develop a comprehensive amendment to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) to address discharges of pesticides. This Amendment will be designed to establish water quality objectives and sediment quality objectives and a program of implementation for pesticides that are impacting or could potentially impact aquatic life uses in surface waters. The geographic Project Area for this Amendment will include the areas that drain directly to the lower Sacramento River, the lower San Joaquin River, and the Sacramento-San Joaquin Delta. The focus of this Amendment will be on natural streams that have aquatic life uses[1], and those pesticides that have the greatest potential to impact aquatic life. This amendment will address those pesticide impairments in natural waterways within the Project area that are currently on California's Clean Water Act Section 303(d) impaired waterbody list. This amendment will include all Total Maximum Daily Load (TMDL) elements required to address those 303(d) listings. This amendment may also address pesticides not currently on the 303(d) list if they are identified as having a high potential to impact aquatic life.

This comprehensive Amendment is expected to be more cost effective and efficient than other Basin Planning options (e.g., water body-by-water body). In addition, focusing solely on pesticides on the current 303(d) list could lead to increased use of other pesticides, which may then cause water quality problems leading to the potential need for further Basin Plan Amendments. Clearly identified numeric water quality objectives should also facilitate the implementation of any California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) regulatory programs governing the discharge of pesticides to surface waters.

The following summarizes a work plan to address pesticide discharges to surface water in the Project Area in a comprehensive manner.

[1] Major constructed conveyances already named in the Basin Plan; The Colusa Bain Drain, Sutter Bypass and Yolo Bypass, will also be included in the scope of the Amendment.

2 Goals and Objectives

2.1 Goals of Pesticide Basin Plan Amendment

The primary goal of the Central Valley Pesticide Basin Plan Amendment is to provide a clear regulatory framework for the protection of aquatic life[2] from pesticide runoff in the Project Area. The regulatory framework under consideration will include beneficial uses, site-specific numeric water quality objectives, implementation policies, and monitoring requirements.

Regional Water Board staff will work closely with the Department of Pesticide Regulation (DPR), County Agricultural Commissioners, and U.S. EPA to ensure that efforts to regulate pesticide discharge and pesticide use are as mutually supportive as possible. Interaction with stakeholders will also be critical to ensuring the Amendment is clear, technically valid, and achievable.

A secondary goal is to establish clear procedures that can be used to develop numeric water quality objectives for pesticides. Water quality objectives developed using these procedures could assist DPR in the evaluation of pesticides going through the registration process.

2.2 Objectives of Pesticide Basin Plan Amendment

To accomplish its goals, Regional Water Board staff has the following objectives:

1) Identify those streams in the project area that should fully support aquatic life in the absence of elevated pollutant levels.
2) Identify those pesticides that pose the greatest potential threat to aquatic life, whether in the benthos or water column. At a minimum, diazinon and chlorpyrifos will be addressed.
3) Identify water quality criteria consisting of numeric metrics that, when attained, will protect aquatic life from the interactive or individual effects of those pesticides identified in objective 2.
4) Identify sediment quality criteria consisting of narrative or numeric sediment quality metrics that, when attained will protect aquatic life from the impacts of pesticides that are present in benthic sediments.
5) Identify viable management measures to prevent pesticide impacts.
6) Determine the time frame necessary to develop and implement any necessary pesticide management measures.
7) Determine the available assimilative capacity of waterbodies identified in objective 1 for each pesticide, or, when appropriate, pesticide combination and allocate those assimilative capacities to known sources of those pesticides.
8) Establish a clear process for communicating with stakeholders during the development of the Basin Plan Amendment.

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[2] Generally aquatic life beneficial use is the most sensitive to pesticides in surface water, so criteria that are protective of aquatic life are also protective of all other beneficial uses. Any water quality objectives adopted as part of this Amendment will be protective of all beneficial uses of the waterbodies to which they are applied.

9) Ensure that appropriate monitoring of pesticides is conducted
10) Establish water quality objectives and sediment quality objectives based on the criteria identified in objectives 2 and 3, and a program of implementation for those water and sediment quality objectives using the information from project objectives 5, 6, 7, 8 and 9.

3 Scope of Work

The following technical reports will be produced as part of this Basin Plan Amendment process:

Aquatic Life Beneficial Use Assessment –Most streams in the project area are not specifically identified in the Basin Plan. This report will include a review of the aquatic life beneficial uses that apply to streams (not constructed conveyances) that may receive pesticide runoff.

Pesticide Risk Assessment –Hundreds of pesticide active ingredients are used in the Central Valley. The risk that a pesticide poses to surface waters depends on a number of factors, including the amount of pesticide used, the timing of use, the physical-chemical properties of the pesticide, the sensitivity of aquatic organisms to the pesticide, whether it can act in an additive or synergistic manner with other contaminants, and the locations and land uses where it is applied. Pesticides currently included on the Clean Water Act Section 303(d) list will be assumed to pose a risk. These factors, along with others, will be evaluated to determine which pesticides pose the greatest potential risk to aquatic organisms in stream sediment or the water column. This is a screening level assessment that will allow Regional Water Board staff to determine where to focus efforts for criteria development.

Water Quality Criteria – Based on the pesticide risk assessment, water quality criteria will be developed for pesticides that pose the greatest potential water column risk either individually or in combination with other pesticides. The number of pesticides addressed will depend on the availability of funding. At a minimum, criteria for diazinon and chlorpyrifos will be developed. The criteria document will include a summary of the available toxicity test results and a proposed methodology for establishing criteria when limited lab toxicity data are available.

Sediment Quality Criteria – It is anticipated that certain pesticides currently in wide use will not pose the greatest risk in the water column, but in the sediments. This report will summarize available data on sediment toxicity for those pesticides. Both potential narrative and numeric sediment quality criteria will be considered.

Source Assessment and Loading Capacity Analysis – The sources of the pesticides posing the highest potential risk to surface water will be identified, and, where possible, the relative contribution of each source will be quantified. Water quality models or other methods will be used to estimate the loading capacity for the “high” risk pesticides and to identify potential urban and agricultural sources. When appropriate and technically feasible, loading capacity estimates will consider additive and/or synergistic toxicity effects.

Management Practice Alternatives – For certain pesticides, reductions in pesticide discharge will be required in order to attain water quality objectives. The management practices available to reduce those discharges will be evaluated. Management practices to be considered may include alternate pest management strategies, practices that reduce runoff or off-site movement of pesticides, and irrigation or water management practices. Estimates of the effectiveness of practices in reducing pesticide runoff will be made when such data are available.

Basin Plan Amendment Staff Report – The information from the technical reports described above will be used to prepare a Basin Plan Amendment Staff Report that will evaluate alternatives, and propose a draft Basin Plan Amendment.

For more information about this Basin Plan Amendment please see:
http://www.waterboards.ca.gov/centralvalley/programs/tmdl/pest-basinplan-amend/index.html

For general information about the Central Valley Regional Water Board, please see
http://www.waterboards.ca.gov/centralvalley/board_information/index.html